

support **323** and the transfer object **352** needs to be transparent. The light emitting direction can be determined properly by a person to carry out according to the configuration and fabrication method of the organic light emitting diode and the circuit configuration of the pixel.

[0076] [Embodiment 2]

[0077] In the embodiment, the procedures to fabricate a liquid crystal display device are shown in **FIGS. 4A** to **4E**.

[0078] As shown in **FIG. 4A**, a first material layer **412** is deposited over the substrate **411**. As the first material layer **412**, it may have the compressive stress or may have tensile stress immediately after film deposition. However, it is important to use materials that do not generate abnormality in peeling due to annealing in forming the peeled layer and the irradiation of laser light and have the tensile stress in the range of 1 to 1×10^{10} (Dyne/cm²) after the peeled layer is formed. Typically, nitrides or metals are preferable. A representative example is a single layer formed of an element elected from W, WN, TiN and TiW, an alloy material or a compound material having a principal component of these elements, or a laminated layer of these. In addition, it is fine to use sputtering for the first material layer **412**.

[0079] As the substrate **411**, glass, silica and ceramics can be used. Furthermore, a semiconductor substrate typically silicon, or a metal substrate typically stainless steel may be used. Here, a glass substrate (#1737) having a thickness of 0.7 mm is used.

[0080] Subsequently, a second material layer **413** is formed over the first material layer **412**. As the second material layer **413**, it is important to use materials that do not generate abnormality in peeling due to annealing in forming the peeled layer and the irradiation of laser light and have the compressive stress in the range of 1 to 1×10^{10} (Dyne/cm²) after the peeled layer is formed. As the second material layer **413**, oxides are preferable. A representative example is silicon oxide, silicon oxide nitride and metal oxide materials, or a laminated layer of these. Moreover, it is fine to use sputtering to deposit the second material layer **413**. When the second material layer **413** is deposited by sputtering, a rare gas typically argon gas is introduced into a chamber to contain a slight amount of a rare gas element in the second material layer **413**.

[0081] In the first material layer **412** and the second material layer **413**, the film thickness of each layer is properly set within the range of 1 to 1000 nm to adjust the internal stress in the first material layer **412** and the internal stress in the second material layer **413**.

[0082] In addition, in **FIGS. 4A** to **4E**, the embodiment is shown that the first material layer **412** is formed as contacting with the substrate **411** for simplifying the processes. However, it is acceptable that an insulating layer or metal layer to be a buffer layer is disposed between the substrate **411** and the first material layer **412** to enhance the adhesion to the substrate **411**.

[0083] Then, a peeled layer **414** is formed over the second material layer **413**. A peeled layer **414a** includes TFTs (n-channel TFTs) in the pixel portion, pixel electrodes, retention capacitances, drive circuit TFTs (n-channel TFTs and p-channel TFTs) around the pixel portion, and wiring lines. In the embodiment, the reflective liquid crystal display

device is considered in which only external lights are utilized to obtain light emission. In this case, it is fine to use metals having high photoreflectance such as aluminum and silver for the pixel electrode. Furthermore, even though the internal stress in the second material layer **413** is varied from the internal stress in the first material layer **412**, film removal is not generated due to annealing in the fabrication process of the peeled layer **414**.

[0084] Subsequently, an alignment layer is formed over the pixel portion in the peeled layer **414** and rubbed in one direction. Therefore, the orientation of liquid crystal molecules that will be filled later can be aligned in one direction. After that, pillar or spherical spacers **415** are formed by patterning or spraying. Accordingly, the thickness of the layer of liquid crystals that will be filled later can be controlled.

[0085] Then, the treatment is performed in which the adhesion of the first material layer **412** to the second material layer **414** is partially reduced. The treatment of partially reducing the adhesion is the treatment that laser light is partially irradiated onto the second material layer or the first material layer along the rim of the area to be peeled, or the treatment that a local pressure is applied from outside along the rim of the area to be peeled and the inside or interface of the second material layer is partially damaged. More specifically, it is acceptable that a hard needle is pressed vertically with a diamond pen and moved with load. Preferably, it is fine that a scribe is used, an amount to press is set from 0.1 to 2 mm and pressure is applied to move the needle. In this manner, it is important to create a portion where the removal phenomenon tends to be generated before peeling, that is, to create a trigger. The pretreatment to selectively (partially) reduce the adhesion is performed, whereby defects in peeling are eliminated and the yield is enhanced as well.

[0086] Subsequently, as shown in **FIG. 4B**, an FPC **421** is bonded to a terminal electrode disposed at the end part of an interconnect wiring line connected to the TFTs disposed in the peeled layer **414**.

[0087] Then, a support **423** is bonded to the substrate **411** (accurately, it is the oxide layer **413**) with sealing agents **422a** and **422b**. However, in order to fill liquid crystals later, a filling port is disposed as **422a**. The support **423** originally having curvature and elasticity is bonded with the external force applied. After bonded, the restoring force is exerted over the support **423**, but the substrate **411** has a higher rigidity. Thus, the support does not return into the original shape at this stage. The existence of the spacers **415** allows the interval between the support **423** and the substrate **411** to be kept constant. In the liquid crystal display device, the support **423** is generally the opposite substrate, which is considered to have a color filter, a polarizer, a common electrode and an alignment layer (not shown) formed thereon beforehand. In the reflective liquid crystal display device, it is fine to use a transparent conductive film (ITO or IZO) for the common electrode.

[0088] As the sealing agents **422a** and **422b**, the reactive curing type, thermosetting type, photo-curing type and anaerobic type of adhesives are named. As the composition of the sealing agents, any sealing agents are fine such as the epoxy type, acrylate type, and silicon type. The formation of such the sealing agents is performed by coating. Further-